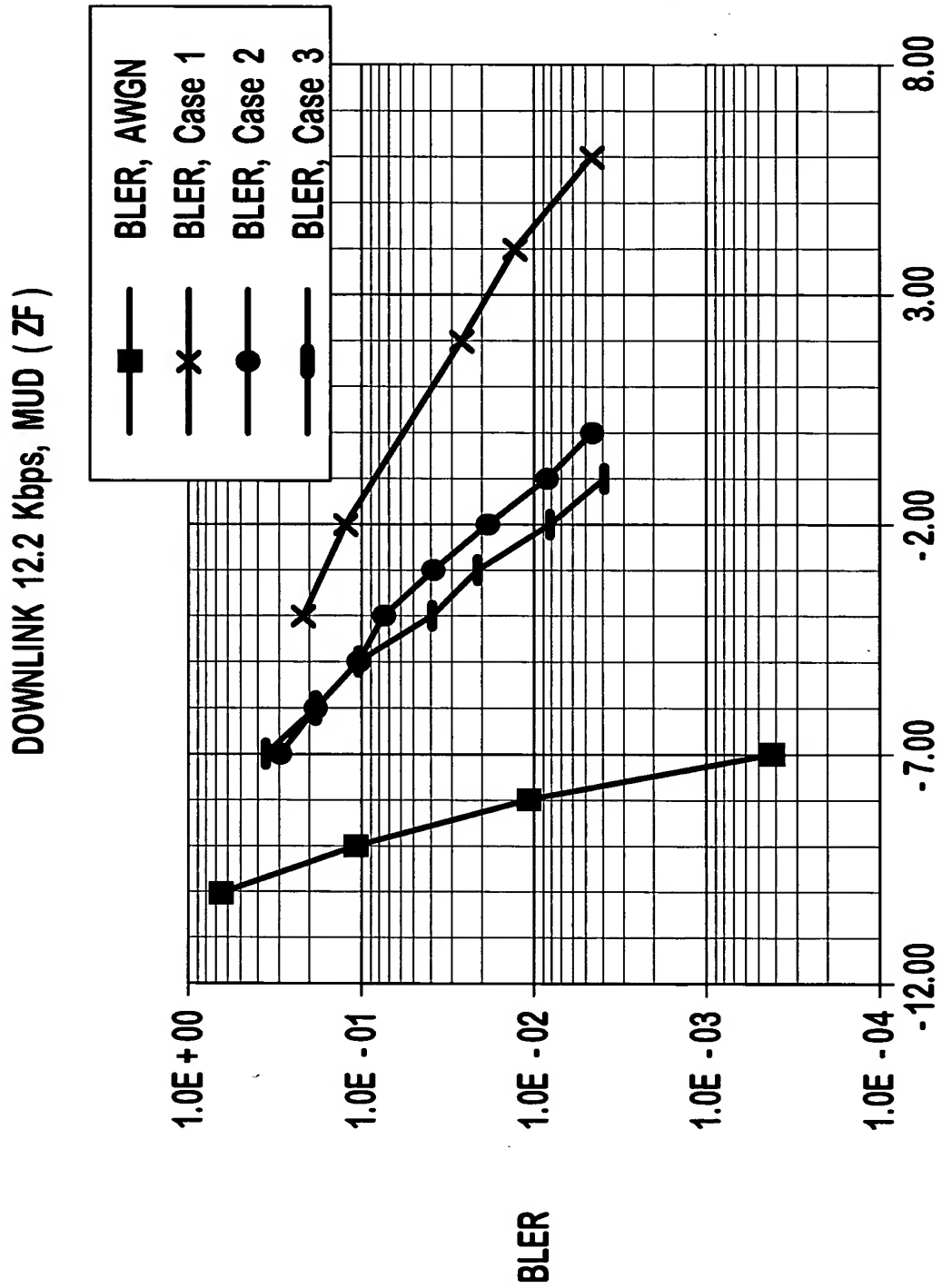


FIG. 1
PRIOR ART

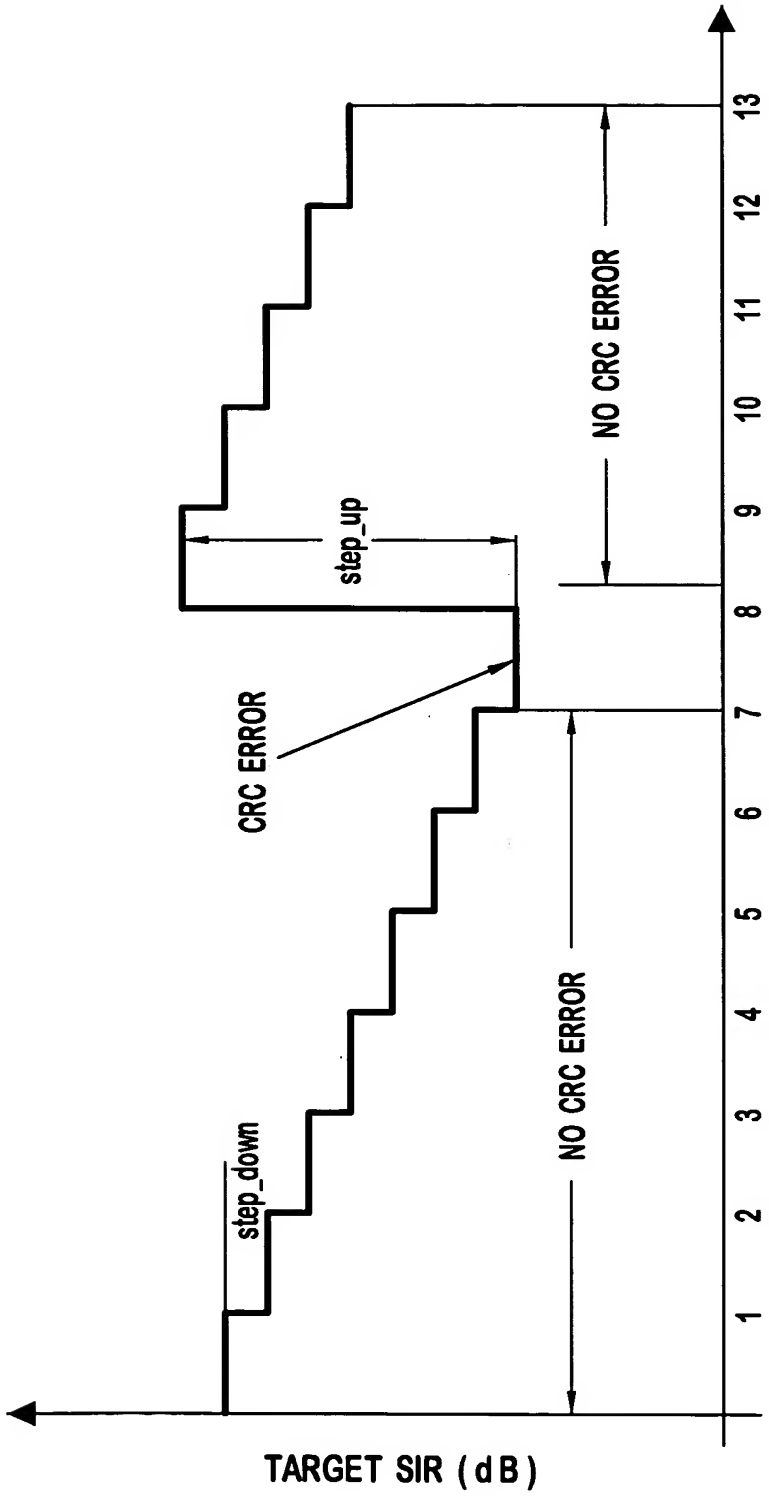

TARGET SIR (dB)
NUMBER OF TrCH BLOCKS / TTI
1
2
3
4
5
6
7
8
9
10
11
12
13
step_down
step_up
CRC ERROR
NO CRC ERROR
NO CRC ERROR

FIG. 2

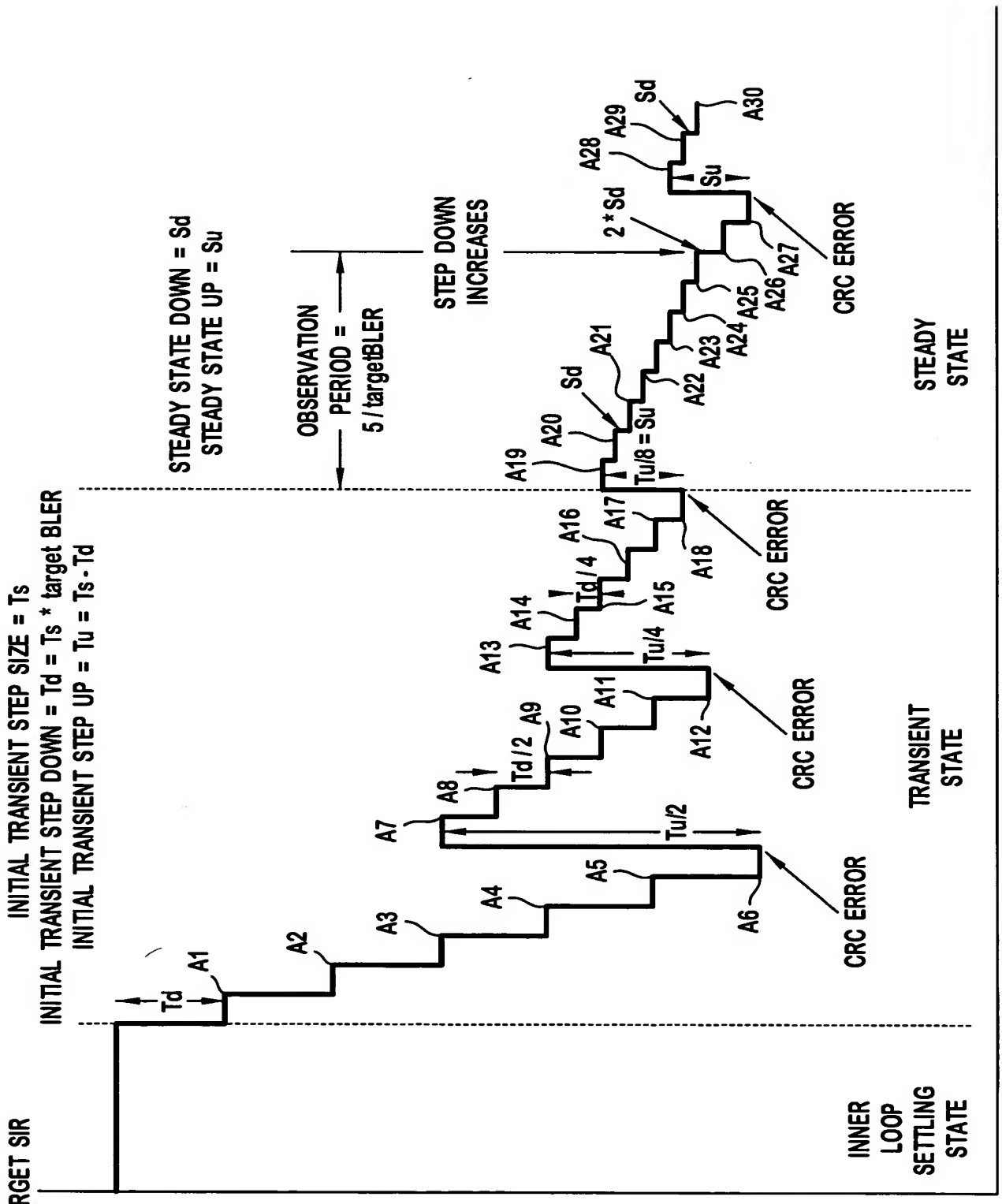
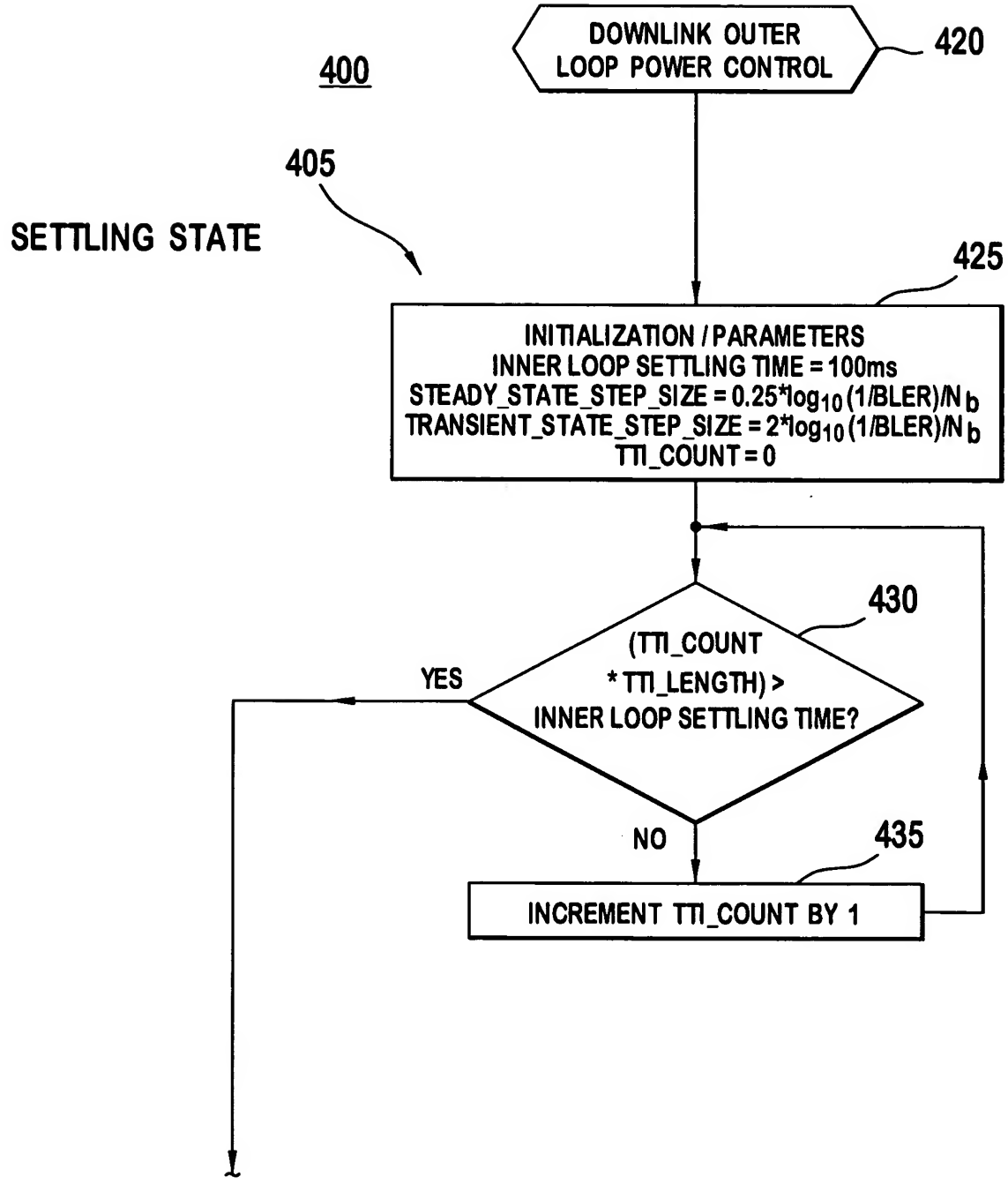

TARGET SIR
INNER LOOP SETTLING STATE
TRANSIENT STATE
STEADY STATE
INITIAL TRANSIENT STEP SIZE = Ts
INITIAL TRANSIENT STEP DOWN = Td = Ts * target BLER
INITIAL TRANSIENT STEP UP = Tu = Ts - Td
STEADY STATE DOWN = Sd
STEADY STATE UP = Su
OBSERVATION PERIOD = 5 / targetBLER
STEP DOWN INCREASES
2*Sd
Td
Tu/2
Td/2
Td/4
Tu/4
Tu/8=Su
Sd
Su
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
A12
A13
A14
A15
A16
A17
A18
A19
A20
A21
A22
A23
A24
A25
A26
A27
A28
A29
A30
CRC ERROR
CRC ERROR
CRC ERROR
CRC ERROR
CRC ERROR

FIG. 3

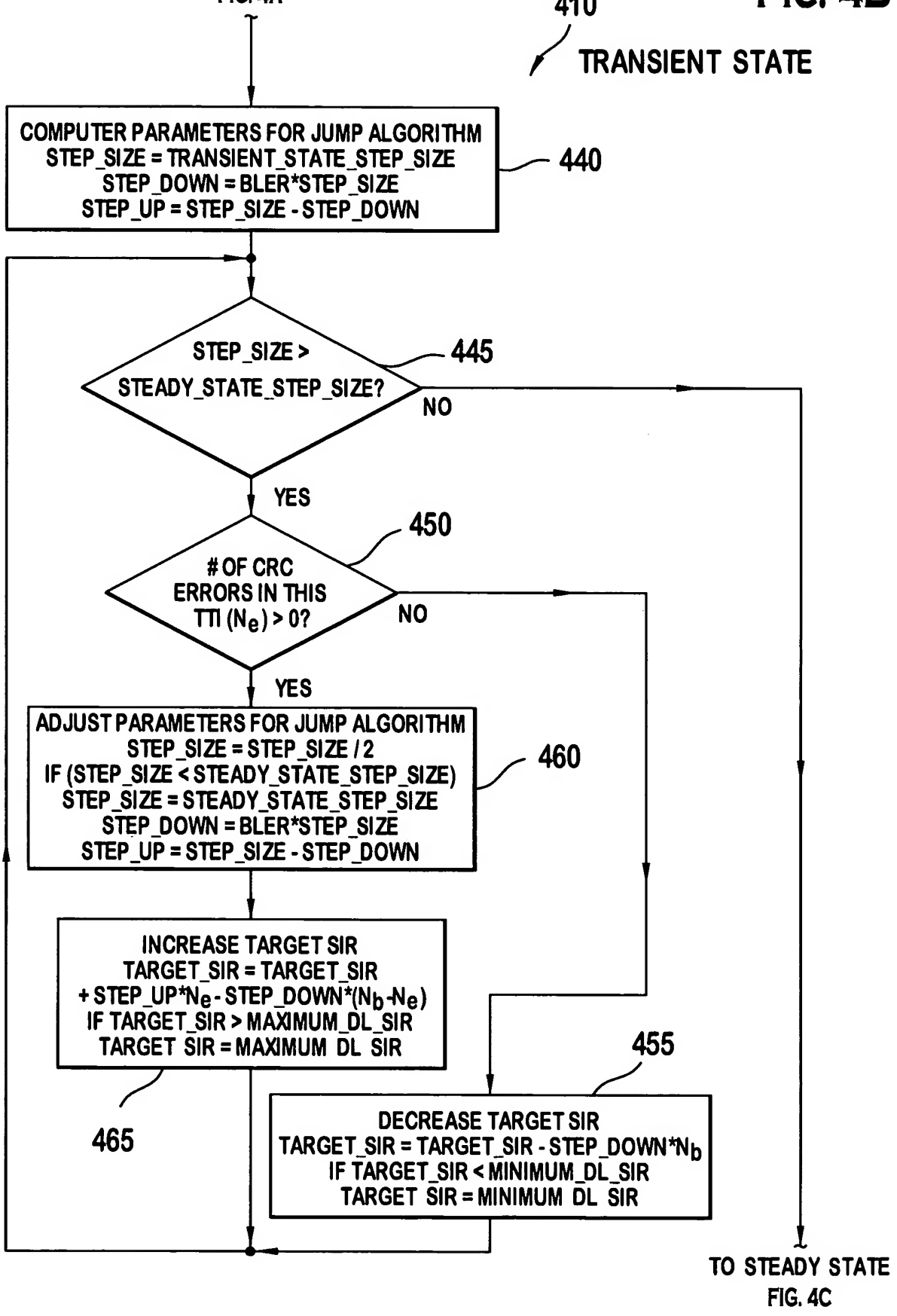
FIG. 4A



TO TRANSIENT STATE

FIG. 4B

FIG. 4B


FROM SETTLING STATE
FIG. 4A
410
TRANSIENT STATE
COMPUTER PARAMETERS FOR JUMP ALGORITHM
STEP_SIZE = TRANSIENT_STATE_STEP_SIZE
STEP_DOWN = BLER*STEP_SIZE
STEP_UP = STEP_SIZE - STEP_DOWN
440
STEP_SIZE > STEADY_STATE_STEP_SIZE?
445
NO
YES
OF CRC ERRORS IN THIS TTI (N_e) > 0?
450
NO
YES
ADJUST PARAMETERS FOR JUMP ALGORITHM
STEP_SIZE = STEP_SIZE / 2
IF (STEP_SIZE < STEADY_STATE_STEP_SIZE)
STEP_SIZE = STEADY_STATE_STEP_SIZE
STEP_DOWN = BLER*STEP_SIZE
STEP_UP = STEP_SIZE - STEP_DOWN
460
INCREASE TARGET SIR
TARGET_SIR = TARGET_SIR
+ STEP_UP*N_e - STEP_DOWN*(N_b-N_e)
IF TARGET_SIR > MAXIMUM_DL_SIR
TARGET SIR = MAXIMUM DL SIR
465
455
DECREASE TARGET SIR
TARGET_SIR = TARGET_SIR - STEP_DOWN*N_b
IF TARGET_SIR < MINIMUM_DL_SIR
TARGET SIR = MINIMUM DL SIR
TO STEADY STATE
FIG. 4C

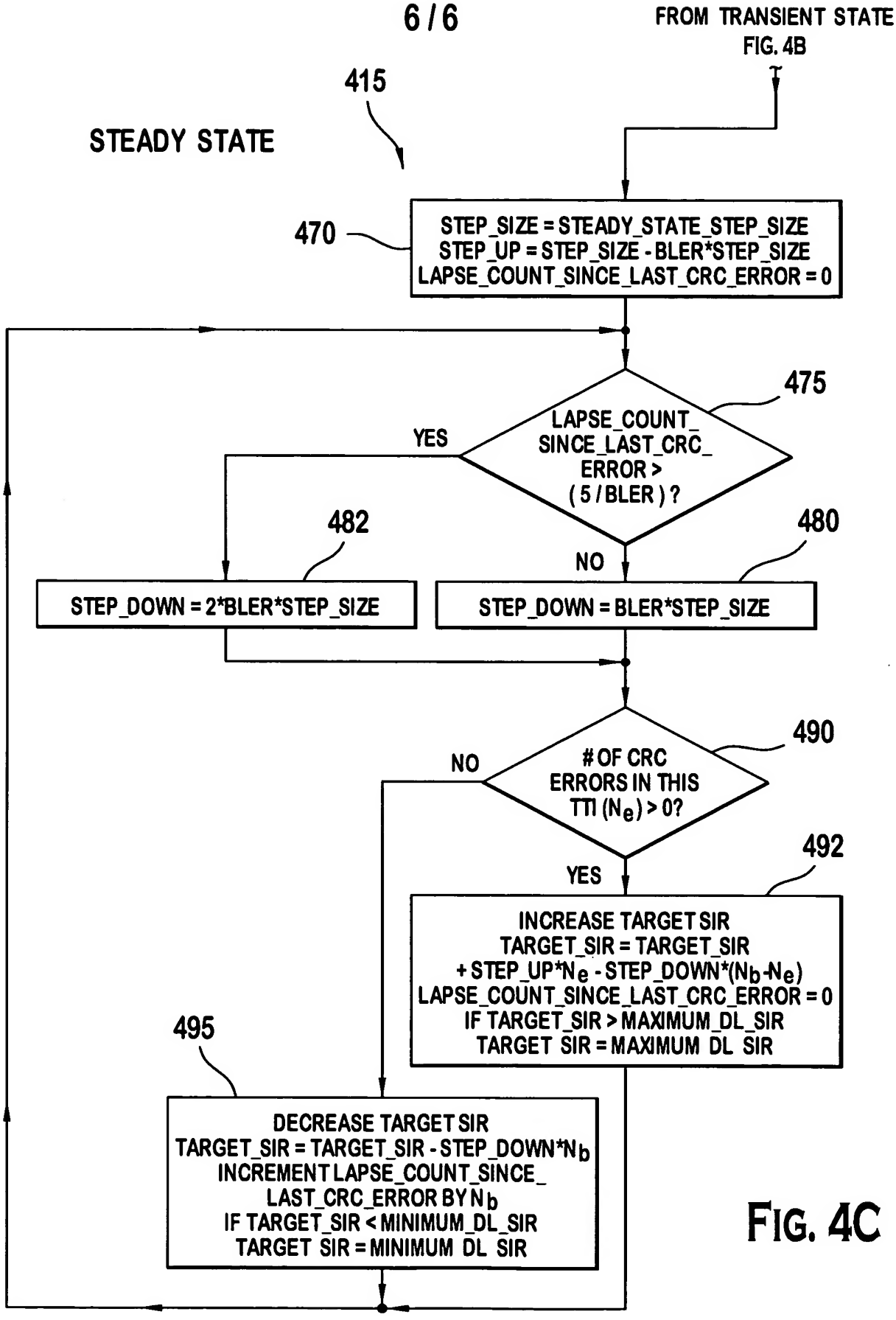

FROM TRANSIENT STATE
FIG. 4B
415
STEADY STATE
470
STEP_SIZE = STEADY_STATE_STEP_SIZE
STEP_UP = STEP_SIZE - BLER*STEP_SIZE
LAPSE_COUNT_SINCE_LAST_CRC_ERROR = 0
475
LAPSE_COUNT_ SINCE_LAST_CRC_ ERROR > (5 / BLER) ?
YES
NO
482
STEP_DOWN = 2*BLER*STEP_SIZE
480
STEP_DOWN = BLER*STEP_SIZE
490
OF CRC ERRORS IN THIS TTI (N_e) > 0?
NO
YES
492
INCREASE TARGET SIR
TARGET_SIR = TARGET_SIR + STEP_UP*N_e - STEP_DOWN*(N_b-N_e)
LAPSE_COUNT_SINCE_LAST_CRC_ERROR = 0
IF TARGET_SIR > MAXIMUM_DL_SIR
TARGET SIR = MAXIMUM DL SIR
495
DECREASE TARGET SIR
TARGET_SIR = TARGET_SIR - STEP_DOWN*N_b
INCREMENT LAPSE_COUNT_SINCE_ LAST_CRC_ERROR BY N_b
IF TARGET_SIR < MINIMUM_DL_SIR
TARGET SIR = MINIMUM DL SIR

FIG. 4C